Scoping Statement – El Kablat Medical Center and Two Closed Secondary Lead Smelters

Livelihood and Income from the Environment Program Lead Pollution Clean-up in Qalyoubia

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS

AQMC	Air Quality Monitoring Component
Chemonics	Chemonics International
CAP	Compliance Action Plan
CFR	United States Code of Federal Regulations
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EEAA	Egyptian Environmental Affairs Agency
GOE	Government of Egypt
GOQ	Governorate of Qalyoubia
HI	Non-carcinogenic Hazard Index
LIFE	Livelihood and Income from the Environment Program
MSEA	Ministry of State for Environmental Affairs
MSE	Millennium Science & Engineering, Inc.
PM	Particulate Matter
RBO	EEAA Regional Branch Office
RBRGS	Risk-Based Remediation Goals
TCLP	Toxicity Characteristic Leaching Procedure
USAID	United States Agency for International Development
USEPA	United States Environmental Protection Agency

INTRODUCTION

Lead contamination from secondary lead smelters in Shoubra El Kheima, Qalyoubia poses serious health impacts for the residents living near the smelters. To address this problem, the United States Agency for International Development (USAID) and the Government of Egypt (GOE) designed a lead clean-up component under the Livelihood and Income from the Environment Program (LIFE). The clean-up project is called LIFE-Lead Pollution Clean-up in Qalyoubia (LIFE-Lead). The overall goal of the project is to empower local residents in the polluted communities to improve their living conditions.

LIFE-Lead is being implemented by Millennium Science & Engineering, Inc. (MSE), in association with Chemonics International (Chemonics). The original project scope included the remediation of five secondary lead smelters and the El Shahid Ahmed Shaalan School in Shoubra El Kheima, Qalyoubia. The area is highly industrialized and lead contamination has a significant impact on human health and the environment of the area. The project extension will allow for the remediation of the Delta Solb (Delta for Steel) Preparatory School, the El Kablat Medical Center, and two closed secondary lead smelters (Osama Zakaria and Khaled Saad smelters). In addition to site remediation, the project includes activities in community involvement and public participation, communications, capacity building, and policy/legal support.

LIFE-Lead was initiated on August 18, 2004 with a closing date of August 17, 2006. The project was extended to March 31, 2007 in a contract modification signed in late March 2006.

Several governmental and non-governmental entities are directly or indirectly involved in the implementation of the project activities. Governmental entities include the Egyptian Environmental Affairs Agency (EEAA), the Governorate of Qalyoubia (GOQ), and the Ministries of Health, Education, and Industry. Non-governmental organizations include the Community Development Associations, the private sector, and the media.

All projects funded by USAID are subject to United States governmental regulations for environmental impact assessment.[1] Under these regulations, actions that will have a significant impact on the environment in the country of implementation require the preparation of an Environmental Assessment (EA). USAID has determined that the clean-up (i.e., remediation) activities to be conducted by LIFE-Lead will have significant impacts on the environment of Egypt, thus the project is subject to an EA.

The first steps in the EA procedure are to host a Scoping Session and to prepare a Scoping Statement. The project hosted a Scoping Session on August 9, 2006 in the Shoubra El Kheima City Council Chamber, Qalyoubia for the remediation of the Medical Center and the two smelters. The agenda for the session and a list of attendees is attached to this Scoping Statement as Appendix A.

The objective of this Scoping Statement is to summarize the results related specifically to the remediation activities that will be funded by USAID under LIFE-Lead:

- Remediation of El Kablat Medical Center.
- Remediation of two closed secondary lead smelter sites.

This Scoping Statement presents the conclusions drawn during the Scoping Session and will specify the methods and schedule for preparation of the EA for these project activities.

[1] Environmental Procedures, Title 22 of the U.S. Code of Federal Regulations, Part 216 (22 CFR 216).

Scoping Objectives

As required by 22 CFR 216.3 (a) (4), the objectives of this Scoping Statement include the following:

- Determine the scope and significance of issues to be analyzed in the EA, including direct and indirect effects of the project on the environment.
- Identify and eliminate from detailed study the issues that are not significant or have been covered by earlier environmental review, or approved design considerations, narrowing the discussion of these issues to a brief presentation of why they will not have a significant effect on the environment.
- Describe the timing of the preparation of the EA, variations in the format of the EA, and the tentative planning and decision-making schedule.
- Describe how the analysis of environmental impacts will be conducted and the disciplines that will participate in the analysis.

This Scoping Statement will be submitted to USAID for review and approval. The EA for the remediation activities of the project will be prepared in accordance with the Scoping Statement as approved by USAID.

Environmental Setting

Location and Status of Sites--

All of the sites that are included in the LIFE-Lead project are located near the southern border of the Qalyoubia Governorate in the East District (Hai Shark) of the City of Shoubra El Kheima (Figure 1). The sites include the following two secondary lead smelters and a medical center:

- El Kablat Medical Center located near El Kablat Sporting Center.
- Osama Zakaria Smelter 1 located on Ibrahim Lotfy Street near Ismailia Canal Road.
- Khaled Saad Smelter 2 located on El Khalil Ibrahim Mousa Street.

The El Kablat Medical Center was inaugurated in 1976. The center property encompasses an area of approximately 2,112 square meters (m^2) and consists of two-story building and landscaped areas. The center is bordered by unpaved roads, Ben Zayoun El Kablat Street on the north, and residential blocs on the four sides as well as a local market. Currently, the center employs 59 personnel, of which 15 are physicians and 18 medical support staff. On an average day, approximately 350 patients visit the center for acquiring medical services.

The Osama Zakaria Secondary Lead Smelter is currently closed and is kept as a storage facility for nails by the new owner. The smelter property encompasses an area of approximately 120 square meters (m^2) and consists of three wide rooms occupying the first and second floors of a two story old building.

The Khaled Saad Secondary Lead Smelter is currently closed and has a new owner. The smelter property encompasses an area of approximately 140 square meters (m^2) and consists of two wide empty rooms and an entrance occupying the second floor of a two story building. Only the second floor was used for lead smelting, while the first floor was used by a nail producing workshop.

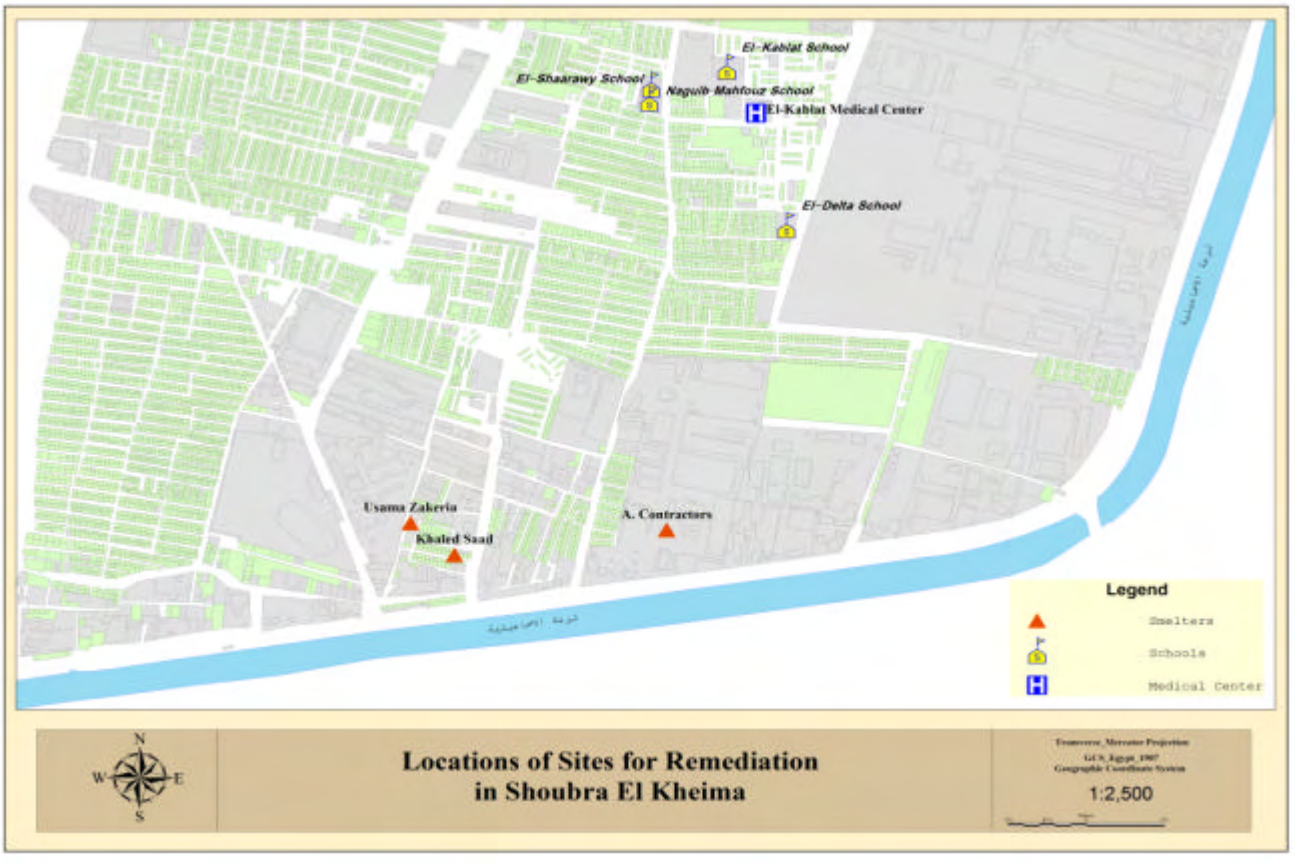
Basic Topographic and Hydrologic Features--

The smelters and the medical center are located within the flood plain of the Nile River. The topography of the area is almost flat with an average elevation of 17 meters above mean sea level. The climate of the site is considered arid with annual rainfall of approximately 25 millimeters.

The dominant winds over the year are with a northern component. The dominant winds over the winter season trend SSW, S, and SW. The affecting dominant winds over the summer period are multidirectional and trend NNW, N, and NNE. In transitional periods (spring and autumn), the winds trend dominantly in N and NNE directions.

The general area of the school is underlain by two hydrogeologic units, an upper silt and clay layer beneath which is a major alluvial aquifer. The water table is from five to six meters below the ground surface. The groundwater flow direction trends to the NNW consistent with the flow direction of the Ismailia Canal. Seasonal variations in flow direction are negligible as the canal is maintained at near the same level throughout the year. The Ismailia Canal is a source of recharge to the aquifer as well as a source of drinking water. The North Cairo Water Treatment Plant is located just south of the Ismailia Canal.

Figure 1: Location of Sites for Remediation



Air Quality--

According to the CAIP Air Quality Monitoring Component (AQMC) and particulate matter (PM) and lead monitoring results, obtained from 36 sites in Greater Cairo during October 1998 to July 1999, the highest PM10, PM2.5, and lead concentrations during this period were observed in the industrial areas of Shoubra El Kheima. Mean inhalable particulate

matter (PM10) levels were found to be 313 μg/m^3, which exceeds the allowable limit of Egyptian Law 4/1994 (70 μg/m^3). As for the lead levels, 26 μg/m^3 were recorded which also exceeds Law 4 annual average of 1.0 μg/m^3.

In 2004, mean inhalable particulate matter (PM10) levels dropped to 178 μg/m^3. As for the lead levels, 1.02 μg/m^3 were recorded which nearly meets Law 4 annual average of 1.0 μg/m^3. In 2005, mean inhalable particulate matter (PM10) levels dropped to 161 μg/m^3. As for the lead levels, 1.66 μg/m^3 were recorded which exceeds the Law 4 annual average of 1.0 μg/m^3.

Population and Land Use--

The population in the Hai Shark (East District) of Shoubra El Kheima increased from 454,000 in 1996 to 536,900 in 2001 with an annual population growth rate of 3.7 percent. This annual growth rate is higher than in the city, governorate, or in Egypt as a whole.

The sites are located in mixed land use areas with industrial, residential, and agricultural uses.

Economic Activities--

The major economic activities in Hai Shark are industry and services.[2] Nearly 45 percent of the labor force[3] in the Hai is in the industrial sector, 43 percent in the services sector, and 12 percent in the agricultural sector. One third of the total labor force and one half of the women in the labor force work for the government or in the public sector (which cuts across the other three sectors). The labor force comprised 25.2 percent of the total population in the Hai in 2001. Men comprise 88.7 percent of the labor force, and most people in the labor force are wage earners (78.8 percent).

Overall unemployment in the Hai is relatively low (5.6 percent of the labor force), but is twice as high for women (12 percent) and adults from ages 15 to 29 (11.2 percent). However, all of these unemployment rates are lower than the rates for the city of Shoubra El Kheima, the Governorate of Qalyoubia, and Egypt as a whole.

Baseline Human Health Risk Assessment

Preliminary results of the Human Health Risk Assessment for metals in soil from recent soil sampling are provided in the following:

El Kablat Medical Center--

The Baseline Human Health Risk Assessment conducted for the center assessed the potential human health risks associated with carcinogenic and non-carcinogenic heavy metals of concern in surface soil for three types of receptors, namely children and adults visiting the medical center as well as workers at the center.

For children visiting the El Kablat Medical Center, a non-carcinogenic hazard index (HI) of 0.9 was calculated for children visiting the medical center. The hazard index is a ratio that, if greater than 1, may represent potential for non-carcinogenic health effects.

[2] Economic data is for the year 2001 and comes from the Central Agency for Public Mobilization and Statistics (CAPMAS) as reported in the Qalyoubia Human Development Report 2003 prepared by the Ministry of Local Development with support from the United Nations Development Program (UNDP).

[3] Labor force is defined as the population of 15 years of age or older who are employed or are actively seeking employment.

The total carcinogenic risk to children visiting the Kablat Medical Center is 2×10^{-6}. In general, U.S. standards require corrective action if the potential cancer risk exceeds one in ten thousand (1×10^{-4}) under the current or likely future land use.

For adults visiting the El Kablat Medical Center, a non-carcinogenic hazard index (HI) of 0.1 was calculated for adults visiting the medical center. The total carcinogenic risk to adults visiting the Kablat Medical Center is 1×10^{-6}.

For workers at the El Kablat Medical Center, a non-carcinogenic HI of 1.3 was calculated for workers at the El Kablat Medical Center. Approximately 81% of this HI is attributed to antimony, 12% by cadmium, and 7% by arsenic. The total carcinogenic risk to workers at the medical center is 1×10^{-5} indicating that corrective action may be needed. This carcinogenic risk is due to exposure to arsenic in soil and dust.

Osama Zakaria Secondary Lead Smelter--

The non-carcinogenic HI for workers at the Osama Zakaria Secondary Lead Smelter is 20 indicating that a non-carcinogenic health hazard is expected. The carcinogenic risk to workers at this smelter is 3×10^{-3}. Cancer risks less than 1×10^{-4} but greater than 1×10^{-6} usually require a site management plan. These health risks are due to exposure to arsenic, lead, antimony and cadmium in soils and dust. Blood lead modeling showed that 100 percent of the workers are expected to have blood lead levels greater than 10 µg/dl. These risk estimates indicate that corrective action is necessary.

Khaled Saad Secondary Lead Smelter--

The non-carcinogenic HI for workers at the Khaled Saad Secondary Lead Smelter is 3.1 indicating that a non-carcinogenic health hazard is expected. The carcinogenic risk to workers at this smelter is 4×10^{-4}. These health risks are due to exposure to arsenic, lead, antimony and cadmium in soils and dust. Blood lead modeling showed that 99 percent of the workers are expected to have blood lead levels greater than 10 µg/dl. These risk estimates indicate that corrective action is necessary.

Description of Potential Activities

Proposed Remediation Goals--

There are currently no cleanup standards for heavy metals in soil, dust, or wipe samples in Egypt. Therefore the objective is to identify preliminary risk-based remediation goals (RBRG) for heavy metals in soil and/or dust and benchmarks for wipes for the different sites. Table 1 provides the RBRG for heavy metals in surface soil and wipe samples for the sites.

Table 1: RBRG/Benchmarks for Surface Soil and Wipe Samples

RBRG and/or Benchmark	Lead (Pb)	Arsenic (As)	Cadmium (Cd)	Antimony (Sb)	Chromium (Cr VI)	Mercury (Hg)
RBRG in surface soil-industrial (mg/kg)	1,500	1.6	450	410	450	--
Dust wipe levels*-industrial	500	--	--	--	--	--
RBRG in surface soil-Medical Center (mg/kg)	400	1	477	260	210	--
Dust wipe levels*-Medical Center	40	36	145	58	437	15

***** Health Based Benchmark by EPA **(**µg/ft^2**)**

Sampling and Site Characterization--

Sampling and Analysis Plans--

El Kablat Medical Center--Three different sampling methods were used during the sampling program at the medical center site. The first method was bulk surface soil and dust sampling. Bulk surface soils samples were collected from bare soil areas outside the center buildings at the various landscaped areas. Dust sampling was completed where dust had accumulated in piles or in layers on the floors within the interior buildings of the center.

The second method was digging boreholes and collecting soil samples at depths of up to 1.5 meters, from bare soil areas outside the center buildings, at the various landscaped areas.

The third method was dust wipe sampling which was used on walls, floors, and doors where there was minor accumulations of dust.

Osama Zakaria Secondary Lead Smelter--Four different sampling methods were used during the sampling program at the smelter site. The first method was bulk surface dust sampling. Dust sampling was used where dust had accumulated in piles or in layers on the floors within the smelter.

The second method was digging boreholes and collecting soil samples at depths up to 2.0 meters from areas inside the smelter.

The third method was dust wipe sampling which was used on walls where there were minor accumulations of dust.

The fourth method was dust sampling after removing 5.0 cm from the painted layer off the walls.

Khaled Saad Secondary Lead Smelter--Two different sampling methods were used during the sampling program at the smelter site. The first method was bulk surface dust sampling. Dust sampling was used where dust had accumulated in piles or in layers on the floors within the smelter.

The second method was dust wipe sampling which was used on walls where there were minor accumulations of dust.

Types of Samples--

The total number of samples collected from the three sites was forty (40) dust samples, five (5) bulk surface samples, forty (40) subsurface samples, and twenty (20) wipe samples. Table 2 provides the types and locations of samples for each of these three sites.

Table 2: Types and Locations of Samples from the Sites

Type of Sample	Locations	Quantity	Total	Remarks
El Kablat Medical Center				
Bulk Surface Soil	Landscaped areas	5	56	5 locations
Bulk Subsurface Soil	Landscaped areas	25		Up to 1.5 m depth in 7 locations
Dust	In rooms and corridors	18		16 locations
Wipes (floors, doors, walls)	Inside and outside rooms	8		8 locations

Type of Sample	Locations	Quantity	Total	Remarks
Osama Zakaria Secondary Lead Smelter				
Bulk Subsurface Soil	Inside facility	15	37	Up to 2.0 m depth in 3 locations
Dust	Inside facility	4		4 locations
Dust (after removing 5.0 cms from the painted layer off the walls)	Off walls	12		12 locations
Wipes (walls)	Off the walls of the facility	6		6 locations
Khaled Saad Secondary Lead Smelter				
Dust	Inside facility	6	12	6 locations
Wipes (walls)	Off the walls of the facility	6		6 locations

Site Characterization--

Site characterization encompasses efforts to define the nature, and extent of contamination and to collect information needed to select and carry out the appropriate site remediation. The collected samples were analyzed using the field portable X-ray Fluorescence (XRF) purchased at an earlier stage by the project. The difference in contaminant levels between interior dust and exterior soil is attributed to variance in particle size of the samples. Tables 3 through 5 provide the results of the analyses of the heavy metals in the various media at the sites and compared to the proposed remediation goals.

El Kablat Medical Center--Table 3 provides the results of the analyses of the heavy metals in the various media at the sites and are compared to the proposed remediation goals.

Table 3: Analytical Results of Samples for the El Kablat Medical Center

Type of Sample	Lead (Pb)	Arsenic (As)	Cadmium (Cd)	Antimony (Sb)	Chromium (Cr)	Mercury (Hg)
Bulk Soil/Dust RPRG (mg/kg)	**400**	**1**	**477**	**260**	**210**	**--**
Average Surface Soil (mg/kg)	83.59	08.79	33.76	66.18	70.22	--
Average Sub-surface soil (mg/kg)	32.66	05.40	36.92	76.22	59.40	--
Average Dust (mg/kg)	148.18	08.90	59.09	120.51	61.98	--
Wipes*	**40**	**36**	**145**	**58**	**437**	**15**
Average Wipes - $\mu g/ft^2$	268.14	32	84	8,379	209	21

* Health Based Benchmark by EPA ($\mu g/ft^2$)

The following provides an explanation of the activities that should be taken at the medical center to remediate the contamination identified during the sampling and site characterization:

- Elevated arsenic levels detected in the surface and subsurface soil on the center property should be remediated to levels in the soil below the RBRG.

- Elevated lead, antimony, and mercury levels detected inside the center should be remediated by thoroughly decontaminating floors, doors, and walls followed by painting.

Osama Zakaria Secondary Lead Smelter--Table 4 provides the results of the analyses of the heavy metals in the various media at the smelter and compared to the proposed remediation goals.

Table 4: Analytical Results of Samples for Osama Zakaria Secondary Lead Smelter

Type of Sample	Lead (Pb)	Arsenic (As)	Cadmium (Cd)	Antimony (Sb)	Chromium (Cr)
Bulk Soil/Dust RPRG (mg/kg)	**1,500**	**1.60**	**450**	**410**	**450**
Average Surface Dust (mg/kg)	125,563	4,522	163.68	139.48	199.93
Average Sub-surface soil (mg/kg)	125.34	7.38	31.23	55.89	80.46
Average Dust collected off the walls (mg/kg)	73.00	7.72	57.24	75.91	123.60
Wipes*	**500**	**--**	**--**	**--**	**--**
Average Wipes - µg/ft^2	15,748	3,024	2,337	8,838	438.15

* Health Based Benchmark by EPA (µg/ft^2)

The following provides an explanation of the activities that should be taken at the smelter to remediate the contamination identified during the sampling and site characterization:

- Elevated lead and arsenic levels detected in the surface of the smelter property should be remediated to levels in the soil below the RBRG.
- Elevated lead and other heavy metals levels detected inside the facility should be remediated to reduce exposure to heavy metals on walls.

Khaled Saad Secondary Lead Smelter--Table 5 provides the results of the analysis of the heavy metals in the different media at the smelter and compared to the proposed remediation goals.

Table 5: Results of Analysis of Samples for Khaled Saad Secondary Lead Smelter

Type of Sample	Lead (Pb)	Arsenic (As)	Cadmium (Cd)	Antimony (Sb)	Chromium (Cr)
Bulk Soil/Dust RPRG (mg/kg)	**1,500**	**1.60**	**450**	**410**	**450**
Average Surface Dust (mg/kg)	24,455.34	159.09	85.73	121.86	43.32
Wipes *	**500**	**--**	**--**	**--**	**--**
Average Wipes - µg/ft^2	548.47	119.10	1,320	6,410	197.07

* Health Based Benchmark by EPA (µg/ft^2)

The following provides an explanation of the activities that should be taken at the smelter to remediate the contamination identified during the sampling and site characterization:

- Elevated lead and arsenic levels detected in the surface of the smelter property should be remediated to levels in the soil below the RBRG.

- Elevated lead and other heavy metals levels detected inside the facility should be remediated to reduce exposure to heavy metals on walls.

Remediation Alternatives Under Consideration

The No Action alternative will be assessed in the Environmental Assessment for all of the sites. No Action is not a viable alternative for addressing the problem. However, it does provide a baseline against which the impacts and costs of the other alternatives will be evaluated.

Following the description of the recommended remediation alternatives, an assessment of the other alternatives is provided using the three primary evaluation criteria recommended by the USEPA. The USEPA primary evaluation criteria include the following:

- Effectiveness;
- Implementability; and
- Cost.

El Kablat Medical Center--

Table 6 provides three remediation alternatives that were developed for the Medical Center. Alternative 3 is the recommended alternative and consists of the following major activities:

- Controlled dry cleaning using HEPA vacuum cleaner followed by wet-cleaning of the interior and exterior walls of the building.

- Furniture and materials cleaning and refurbishing.

- Implementing building improvements including interior and exterior wall painting, floor replacement, renovation of the electrical system, and windows and doors replacement to limit airborne pollutants entering the building.

- Hard capping of the ground area and backyards that will serve as a barrier for exposure to heavy metals in soil.

- Hard capping the exterior area at the front gate with an asphalt layer to control drag in.

- Cleaning and rehabilitation of the fence.

- Upgraded sewer and domestic water system.

- Testing of cleaning residuals using XRF and disposal in a suitable disposal facility.

- Conventional site management practices, such as basic hygiene is recommended to minimize exposure.

The main characteristics of this alternative are:

- Effectiveness: Short-term effectiveness is very good when building surfaces are properly prepared; long-term effectiveness is also very good providing that coating maintenance and dust (source) control at exterior are in place and/or provide occupants the adequate education/training.

- Implementability: Technically simple to implement with conventional equipment and trained workers. Low risk from potential exposure of public during remediation with proper engineering controls.

- Cost: The cost is medium. Long-term maintenance costs may marginally increase cost of conventional janitorial services and recurring painting costs; as for the hard cap the long term maintenance cost is minimal.

Table 6: Remediation Alternatives for El Kablat Medical Center

Criteria	Alternative 1 No Action	Alternative 2 Cleaning of interior and exterior walls; Cleaning of furniture; Implementing building improvements; Testing of cleaning residuals and disposal; Conventional site management practices	Alternative 3 Cleaning of interior and exterior walls; Cleaning of furniture; Implementing building improvements; Hard capping of the exterior area; Rehabilitation of fence; Upgrading sewer and domestic water system; Testing and disposal of residuals; Site management
Effectiveness	Poor to fair. Awareness of exposure risks to public will be lacking.	Fair to good. Some technology limitations to removing dust may occur. Dust and offsite source controls important.	Very good. Coatings and dust controls must be maintained. Maintenance of hard cap is minimal.
Implementability	Not Applicable	Technically simple to implement. Work scheduling required.	Technically simple to implement. Work scheduling required.
Cost	None	Low	Medium

Exhibits 1 through 3 in Appendix E provide the location, layout and borehole samples for the El Kablat Medical Center.

Osama Zakaria Secondary Lead Smelter--

Table 7 provides four remediation alternatives that were developed for the smelter. Alternative 3 is the recommended alternative and consists of the following major activities:

- Demolishing smelter structure under dust control measures to eliminate fugitive dust to the surrounding.

- Loading and hauling debris to the Alexandria Hazardous Waste Landfill.

- Cleaning the smelter floor.

- Conventional site management practices, such as basic hygiene is recommended to minimize exposure.

The main characteristics of this alternative are:

- Effectiveness: Long-term effectiveness is excellent.
- Implementability: Technically achievable with the implementation of the Demolition Code Practice measures. Low risk from potential exposure of public during remediation with proper engineering controls.
- Cost: The cost is medium.

Table 7: Remediation Alternatives for Osama Zakaria Secondary Lead Smelter

Criteria	Alternative 1 No Action	Alternative 2 Controlled dry cleaning followed by wet-cleaning of the building structure; Testing of cleaning residuals and disposal; Conventional site management	Alternative 3 Demolishing smelter structure under dust control; Loading and hauling debris to the Hazardous Waste Landfill; Cleaning the smelter floor; Conventional site management	Alternative 4 Demolishing smelter structure under dust control; Compaction of the debris onto the smelter area; Loading and hauling the debris surplus to the Hazardous Waste Landfill; Capping the smelter floor; Conventional site management
Effectiveness	Poor to fair. Awareness of exposure risks to public will be lacking.	Fair to good. Some technology limitations to removing dust may occur. Dust and offsite source controls important.	Very good. Dust controls must be maintained to eliminate impact on the surrounding.	Very good. Dust controls must be maintained to eliminate impact on the surrounding.
Implementability	Not Applicable	Technically simple to implement. Work scheduling required.	Technically achievable. Work scheduling required.	Technically not applicable cause compaction of the debris onto the smelter area will not be stable
Cost	None	Low	Medium	No cost estimation was calculated.

Exhibits 4 through 6 in Appendix E provide the location, layout and borehole samples for Osama Zakaria secondary lead smelter.

Khaled Saad Secondary Lead Smelter--

Table 8 provides two remediation alternatives that were developed for the smelter. Alternative 2 is the recommended alternative and consists of the following major activities:

- Controlled dry cleaning using HEPA vacuum cleaner followed by wet-cleaning of the interior and exterior walls and floor of the building. Cleaning process shall achieve the required cleanup levels.
- Implementing building improvement by painting interior and exterior walls.
- Testing of cleaning residuals using XRF and disposal in a suitable disposal facility.
- Conventional site management practices, such as basic hygiene is recommended to minimize exposure.

The main characteristics of this alternative are:

- Effectiveness: Short-term effectiveness can be fair to good depending on types of building surfaces that will be cleaned; long-term effectiveness will depend on dust (source) control at exterior and/or occupants education/training.
- Implementability: Technically simple to implement with conventional equipment and trained workers. Low risk from potential exposure of public during remediation.
- Cost: Medium cost. Long-term maintenance costs may marginally increase cost of conventional janitorial services and recurring painting costs.

Table 8: Remediation Alternatives for Khaled Saad Secondary Lead Smelter

Criteria	**Alternative 1** **No Action**	**Alternative 2** **Controlled dry cleaning using HEPA vacuum cleaner followed by wet-cleaning of the interior and exterior walls and floor; Implementing building improvement by painting interior and exterior walls; Testing of cleaning residuals and disposal. Conventional site management practices minimize exposure.**
Effectiveness	Poor-to-fair. Awareness of exposure risks to public will be lacking.	Good. Dust and offsite source controls important.
Implementability	Not Applicable	Technically simple to implement. Work scheduling required.
Cost	None	Medium

Exhibits 7 through 9 in Appendix E provide the location, layout and samples for Khaled Saad secondary lead smelter.

SCOPING ACTIVITIES

LIFE-Lead was initiated on August 18, 2004. The expected completion date of the project was August 17, 2006, but has been extended through a contract modification that allows additional remediation activities until March 31, 2007. The project consists of two primary activities which are subsequently divided into tasks and subtasks that further define the work to be accomplished. Activity 1 includes the technical work required to complete site remediation activities. Activity 2 provides community awareness and communications support for the technical activities and is intended to raise the awareness of the community pertaining to environmental issues and concerns from industrial facilities.

Previous studies funded by the USAID have helped understand industrial pollution in Shoubra El Kheima. Background data collection activities associated with Activity 1 started in January 2006 to provide data relative to the present status of heavy metals contamination in the study area. Meetings and coordination with governmental agencies, NGO's, community representatives, smelter owners and others were held to facilitate the sampling and site characterization phase of the project and to collect primary data for the Environmental Assessment.

A Scoping Session was held in the Shoubra El Kheima City Council on August 9, 2006 in preparation for environmental assessments. The session focused on environmental issues related to the remediation activities at the three sites.

This section summarizes scoping activities to date.

Meetings with Governmental Agencies

Meetings with EEAA--

Working Group on EA/EIA--

An EA/EIA Working Group was formed to facilitate the preparation of the EA. The working group consisted of staff from LIFE-Lead as well as the EEAA and GOQ. The EEAA staff included members from the EIA, Hazardous Waste, Hazardous Substances, Regional Branch, and Industrial Departments. The Working Group meets to prepare and discuss EA/EIA project components.

Proposed Remediation Goals--

Remediation clean-up goals have not been established in Egypt. Several meetings were held with the EEAA's Environmental Quality Sector, Hazardous Waste Department, and Environmental Health Department to discuss clean-up levels and to agree upon a procedure to establish clean-up levels.

The consensus was reached that clean-up levels would be set on a site specific case based on the results of a Human Health Risk Based Analysis. In addition, the EEAA agreed to set action levels that would trigger investigation of a potentially contaminated site.

Meetings with Governorate of Qalyoubia (GoQ)--

GoQ-Shoubra El Kheima East District--

Weekly meetings were convened with General Fawzy El Shamy, Head of Shoubra El Kheima East District. Although those regular weekly meetings were for the overall coordination of project activities; issues related to the EA/EIA tasks were also on the agenda

at these meetings. The administration has also facilitated visits for the EA/EIA team to the three sites.

Health Directorate--

GoQ-Health Department--A meeting was held on Wednesday May 24, 2006 in Shoubra El Kheima City Council with the Health Department in Qalyoubia. The purpose of the meeting was to discuss the joint activities to be implemented by LIFE-Lead and Takamol projects including the remediation alternatives to be undertaken at the medical center.

GoQ-El Kablat Medical Center--The medical center employees and administration attended a planning session held by the project on Thursday August 3, 2006. The purpose of the meeting was to inform and coordinate with the center administration the upcoming site remediation activities.

Meetings with Community Representatives and NGO's--

Local NGO's attended the weekly meetings at Shoubra El Kheima East District. A meeting was held at the Shoubra El Kheima City Council with the Local Community Health Advisory Committee on Sunday March 26, 2006 in which the EA/EIA process was discussed and explained. Results of sampling at all sites to be remediated during the extension phase were presented and next steps were communicated with the attendees.

Meetings with the Smelter Owners--

The smelter owners/ representatives were invited to attend meetings with LIFE-Lead. This has been a significant factor in opening a forum with them on the different stages of the project. The process of the EA/EIA and the need for a defined future use for the sites were the primary issues discussed with the smelter owners and their representatives. An orientation session was held on Wednesday July 19, 2006 with Mr. Salah Saad (current occupant of Osama Zakaria smelter) and Tarek Amin and Atef Gad (current occupants of Khaled Saad smelter). This session was focusing on the negotiated agreements to be signed between the East District, EEAA, and smelters owners towards facilitating the remediation work of the project. In addition, owners/representatives were always involved and informed during site characterization and sampling activities undertaken by the project.

Scoping Meeting

The scoping meeting was held on August 9, 2006 in the Shoubra El Kheima City Council Main Hall. The agenda and list of consulted organizations during the Scoping phase is provided in Appendix A.. Presentations and comments at the meeting were in Arabic. Comments and statements by the participants were recorded. A scoping comments statement was provided to allow participants an opportunity to comment in writing if they were reluctant to provide verbal comments.

The participants were given until Tuesday August 15, 2006 to provide their written comments if not delivered during the scoping session. A detailed summary of the participants' remarks and scoping statement responses is provided in Appendix B.

Ninety- nine invitations to stakeholders and individuals outside EEAA and the project team were circulated one week prior to the meeting (Appendix C). An announcement for the meeting was posted in the public announcements board at the Shoubra El Kheima City Council, Shoubra El Kheima East District five days before the meeting. Sixty-one participants registered at the meeting (Appendix D). A breakdown of the attendees is provided in the following:

- Four from the GoQ and Central Government Departments.
- Fifteen representatives from EEAA
- Five representatives of the Shoubra El Kheima East District.
- Eight representatives from the Education Directorate Agency for Educational Buildings and Schools.
- Five representatives from active local NGO's in the East District.
- Four representatives from the Youth Centers, and Cultural and Social Affairs organizations
- Eleven representatives from the Health Directorate.
- Six representatives from universities, contractors, and consultancies.
- Three representatives from the local media and library.

In addition, two representatives from USAID, and nine members of the LIFE-Lead project team participated in the meeting.

The Head of Shoubra El Kheima City, Qalyoubia, General Mohamed Seif El Deen addressed the meeting in the opening session. Opening remarks by Eng. Ahmed Abou El-Soeud, Environmental Quality Sector, EEAA concluded the opening session.

Comments Received--

The comments session was moderated by Eng. Ahmed Abou El Seoud from EEAA. Seven participants outside the project team made statements. In addition, Dr. Fatheya Soliman, Mrs. Madiha Afifi, Dr. Heba Wafa and Eng. Dalia Nakhla from the project team, Eng. Ahmed Abou El-Seoud, EEAA, and Mr. Fawzy El Shamy, East District Head provided informational responses to comments or offered comments on behalf of EEAA and GOQ. A detailed summary of the participants' remarks and scoping statement responses is provided in Appendix B.

Written Statements Received--

During the meeting, participants were encouraged to provide written comments. A period of one week ending on Tuesday August 15, 2006 was announced as a deadline for submittal of written comments. One participant submitted written responses to the scoping comments statement. These comments are included in the detailed summary of participants' comments in Appendix B.

SIGNIFICANT ISSUES TO BE ADDRESSED IN THE ENVIRONMENTAL ASSESSMENT

Impact identification was based on the analysis of project specifications and baseline information collected in the field, literature review and internet search of similar projects, interviews with governmental and non-governmental stakeholders as well as information received from stakeholders during the Scoping Meeting.

This section is divided into three subsections. The first subsection identifies issues viewed by participants as related to the scope of work of the project, followed by significant issues that will be addressed in the EA, and concludes with issues that will be eliminated from further consideration in the EA.

Issues Identified by Participants in the Scoping Session

The purpose of the Scoping Meeting was to disseminate information about the project to the stakeholders and to receive their comments. The meeting also introduced them to the potential environmental issues that would be handled in the EA. During the meeting, a number of issues were raised that will be incorporated into the environmental assessment and some issues that need to be addressed in the baseline studies.

Issues Related to the Project Scope of Work--

Project Scope--

In the Scoping Meeting, the participants highlighted the positive impacts of the remediation conducted at previous sites and the subsequent decision to continue with other sites in the area. They wondered if sampling is ongoing for monitoring the remediated sites. In addition, participants requested that the administration building currently occupied by East District employees be sampled for identification of any risk to employees.

Operations of the Delta Solb and El Kablat Company--

Participants concern was whether there is a follow-up on the sources of pollution still operating in the project study area such as the Delta Solb Company and El Kablat Company. In the session, EEAA informed the attendees that a Compliance Action Plan (CAP) is already underway for the Delta Solb Company. East District Head stated during the meeting that the company is converting its fuel to natural gas which should improve their environmental performance. To this point, the EEAA Industrial Unit representative informed the meeting that this switch of fuel will reduce only the SOx emissions rather than heavy metals. Installation of filters would be required to ensure adequate reduction of heavy metals emissions.

Role of the Egyptian Environmental Affairs Agency (EEAA) and East District, Shoubra El Kheima--

The role of the local government (East District Environmental Management Unit) and the EEAA was highly stressed in the meeting, especially with regards to the follow-up on the Compliance Action Plan (CAP) of the Delta Solb Company, the inspection of the sites after remediation is completed, and the paving of the streets surrounding the remediated sites to stop any drag in contamination back into the sites after remediation.

Health Risk Assessment--

Participants questioned whether the Risk Assessment was based on statistical models only or whether actual sampling from humans took place. In the session, it was clearly stated

that blood samples were taken before initiation of the project and will be repeated at the end of the project to monitor improvements due to remediation. This will be coordinated with EEAA and Ministry of Health after getting the necessary approvals from USAID.

Remediation Alternatives--

Participants commented on the selected remediation alternatives and requested information on whether selection was based only on cost.

Traffic and Heavy Equipment--

Participants requested whether the planning for remediation will take into consideration that the two smelters are in very narrow streets and would pose congestion in traffic on one hand due to the transportation vehicles as well as the maneuvering of heavy equipment.

Operation of the Medical Center during Remediation Period--

Comments were stated concerning the fate of the services offered to the residents by the medical center and whether it will be closed or partially operational during remediation.

General Issues--

Sustainability of Remediation Activities--

Several participants highlighted the need for sustaining the remediation activities. This area includes the issuance of remediation guidelines by the project. The remediation guidelines are one of the main outputs of the project and they will be finalized by January 2007. The guidelines will include remediation of heavy metals and organic pollutants.

Significant Issues to be Addressed in the Environmental Assessment

The following issues have been determined to be significant issues that will be addressed in the EA. The issues raised are not uncommon for remediation projects.

Operation of the Medical Center during Remediation Period--

The technical team of LIFE-Lead stated that the medical center will be closed and residents should be directed to alternate medical units in the area for medical services. During the session, it was agreed to further elaborate the details of this issue in subsequent meetings between the project and the management of the Medical Center.

Air Quality--

Air quality at the project site may be impacted by equipment emissions and fugitive dust from remediation activities. The main sources of emissions that have been identified include the following:

- Re-entrainment of particulate matter by vehicular traffic on haul roads and exposed surfaces.
- Emissions released by transportation and construction vehicles.
- Emissions released by remediation techniques due to energy combustion.
- Dust caused by construction and demolition activities.

Noise--

Ambient noise levels will be increased due to the use of the construction and operation of vehicles on site and during transportation.

Surface Water Quality--

The Ismailia Canal is located approximately 1 km south of the nearest site (Khaled Saad Smelter) and is the only water body in the vicinity. Surface water runoff should not pose a problem due to the limited amount of rain in the area as well as the distance between the sites and the canal.

During transportation of the debris, the Ismailia Canal could be impacted from spillage of contaminated debris caused by a vehicular accident.

Soil--

There will be no excavation at the medical center site according to the proposed remediation alternative; instead capping of the landscaped areas is proposed. The concrete floor at the Osama Zakaria smelter will be cleaned. During site characterization, soil samples were collected at various depths at the medical center and the Osama Zakaria Secondary Lead smelter. A soil profile was developed for both sites. The soil profiles show the changes in soil characteristics, contamination levels, and the top of the perched water or groundwater under the sites. The soil profiles will be included in the EA.

Public Health and Safety--

Remediation activities could also disturb neighboring residents, affect their lifestyle, and jeopardize their daily activities. In addition, health impacts could be caused either by the inhalation of released emissions or dust or through oral intake if the contaminant reaches the food chain.

Workplace Health and Safety--

Inadequate safety practices during any of the remediation activities could lead to exposure of workers to contamination and potentially hazardous materials through inhalation, dermal absorption, or oral intake.

Traffic--

Minor disruption of traffic during remediation is expected, especially in the area around the project site. In addition, there is the potential for road congestion at intersections with the main road parallel to Ismailia Canal during transportation to disposal/treatment sites. .

Additional Sampling of the Administration Building--

Sampling of the administration building will be carried out by the project and analysis results will be included in the EA.

Operations of the Delta Solb and El Kablat Company--

The follow-up of the Compliance Action Plan (CAP) for the Delta Solb and Kablat Companies will be undertaken by EEAA and local authorities. Any enforcement actions

taken by EEAA and the local authority towards the Delta Solb and El Kablat will be documented in the EA.

Issues Eliminated from Further Consideration

Project Scope--

It was clarified in the meeting that the LIFE-Lead project is only part of the larger framework of activities presently being executed in the area of Shoubra El Kheima. The GoQ, in cooperation with other governmental and non-governmental organizations is working on improving the environmental quality of the industrial area of the Shoubra El Kheima East District through a number of activities such as the relocation of the smelters to the Abu Zabaal Industrial Area (El Safa) and remediation of the abandoned contaminated sites for future reuse.

To ensure regular inspection of the remediated sites, a sampling program for the remediated sites was announced by EEAA to be put in place and carried out by EEAA Central Lab after the conclusion of the project. Paving the streets and planting activities can be proposed by the project and implementation would have to be carried out by the competent authorities.

SCHEDULE FOR PREPARING THE ENVIRONMENTAL ANALYSIS

The LIFE-Lead project initiated data collection activities necessary to address the issues identified for environmental analysis in January 2006. The environmental team conducted site visits to evaluate impacts during January through May 2006. The Environmental Assessment will be completed for USAID review by the middle of September 2006. Review will be in accordance with USAID policies and procedures for project environmental review.

Table 9 provides a detailed schedule for the EA. Remediation activities will not begin prior to receiving approval of the EA from USAID. The medical center remediation is targeted to start in October 2006 and will require 10 weeks to complete. For the two smelters which will be remediated in parallel to the medical center, it is targeted to be started and completed during November and December 2006. It is critical that the EA be approved in order for the remediation to begin on schedule.

The Egyptian Environmental Affairs Agency requires an Environmental Impact Assessment (EIA) for remediation projects. The schedule for submittal and approval of the EIA are included in Table 9 and should not be confused with the USAID required EA.

PROPOSED APPROACH TO ADDRESS SIGNIFICANT ISSUES

Identified impacts will be subject to a process of impact evaluation. Impact evaluation will be based on pre-set criteria including, inter alia, impact magnitude, duration, zone of effect, availability of mitigation measures, regulatory standards, and sensitivity/importance of environmental receptors.
Impact quantification will be carried out for those impacts for which there are sufficient data to allow prediction, mainly through risk assessment. Significant environmental impacts will be subject to further analysis after consideration of alternative mitigation measures, while insignificant impacts will not be considered further. Mitigation measures will be either incorporated as an integral part of the design or through management measures. An Environmental Management and Monitoring Plan (EMP) will be formulated to ensure that project performance is meeting the set standards and that the mitigation measures are working to achieve the desired level of impact minimization.

Measures to Address Significant Issues

Based on the preliminary environmental analysis of the identified issues, the following issues will require further assessment. The issues to be addressed and the approach to addressing those issues are described in the following.

Table 10 provides a summary of the schedule for environmental analyses. Baseline data will be collected for inclusion in the EA or prior to the commencement of remediation activities. Additional data will be collected at the end of the remediation activities in December 2006.

Air Quality--

Ambient air quality data are available for the project area through monitoring stations operated by EEAA. Potential incremental air quality consequences that might result from remediation activities will then be assessed qualitatively. Ambient air quality data in the vicinity of the remediation sites will be collected prior to the start of remediation activities. These data will be used to monitor air quality during remediation. Mitigation measures to control fugitive dust and vehicles emissions will be included in the EA.

Noise--

The location of the remediation sites is in an industrial area of Shoubra El Kheima. The noise associated with the site remediation will be similar to the noise already present in the area. The noise levels will be measured at the project site and nearby receptors prior to the start of construction. The measurements will be taken at different times of the day that will be consistent with anticipated work times at the sites.

The noise levels measured prior to the start of remediation activities will form the baseline for the project. The noise levels will then be measured at the same points during remediation activities to assess the impact of noise on workers and local residents. Noise mitigation measures will be defined in the EA.

Soil--

Following the completion of the remediation activities, clearance samples will be collected from landscaped areas to verify that RBRGs are being met. The soil RBRGs have been set and are based on the outputs of the Health Risk Assessment.

Public Health and Safety--

Social and health impacts on the community residing in the project neighborhood are of concern. Proper management of the remediation activities to minimize dust, vehicular emissions, and noise from exiting the boundaries of the remediation area will reduce impacts on the surrounding community. A management plan will be developed to minimize the impacts on the community.

Workers Health and Safety--

Construction workers will be exposed to risks during remediation due to exposure to contaminated dust (through inhalation, ingestion, and dermal contact), and due to accidents and physical injuries. The contractors working on the site will have completed an extensive Health and Safety Training Program prior to the initiation of any remediation activities. The training will include the use of proper personal protective equipment as well as the safe operation of construction equipment.

The contractors will be required to provide project specific Health and Safety Plans. These plans will be self monitored by the contractor with oversight from the project team pertaining to the health and safety requirements of the contract.

Transportation Risks--

Discarded windows and doors and other debris requiring off-site disposal will be hauled to either the Abu Zabaal Landfill or the Alexandra Hazardous Waste Facility based on the classification of waste. A specific hauling route will be defined for all contractors to the disposal facility to minimize the risk of accidents. Emergency Action Plans will be developed to manage accidents that may occur that would result in spillage.

Traffic--

Traffic plans at the sites will need to be coordinated with the job superintendent and the project staff. Special areas will need to be set aside for equipment parking and maintenance that will minimize the impact on the community. Specific ingress and egress routes to the site will be identified and coordinated with the local traffic officials. Narrow streets do not pose a significant hindrance; as demonstrated earlier in the project, a smelter with similar conditions (Seoudi Smelter) was successfully remediated and the narrow streets at that site were not a problem.

Landfill Disposal--

Wastes associated with project activities will be both hazardous and non-hazardous in nature. Landfilling of the contaminated debris is one of the disposal options that will be considered.

The Alexandria Hazardous Waste Landfill has a groundwater monitoring system in place. Records will be requested from the landfill operator for inclusion in the EA.

Non-hazardous waste will be disposed in the Abu Zabaal landfill. Demolition debris samples will be collected from the site and analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) as defined by USEPA Method No. 1311 followed by Method No. 6010 B. Any soil or waste material that has not been decontaminated must pass the TCLP analysis for disposal in the Abu Zabaal landfill.

Variations in Format of the Environmental Assessment

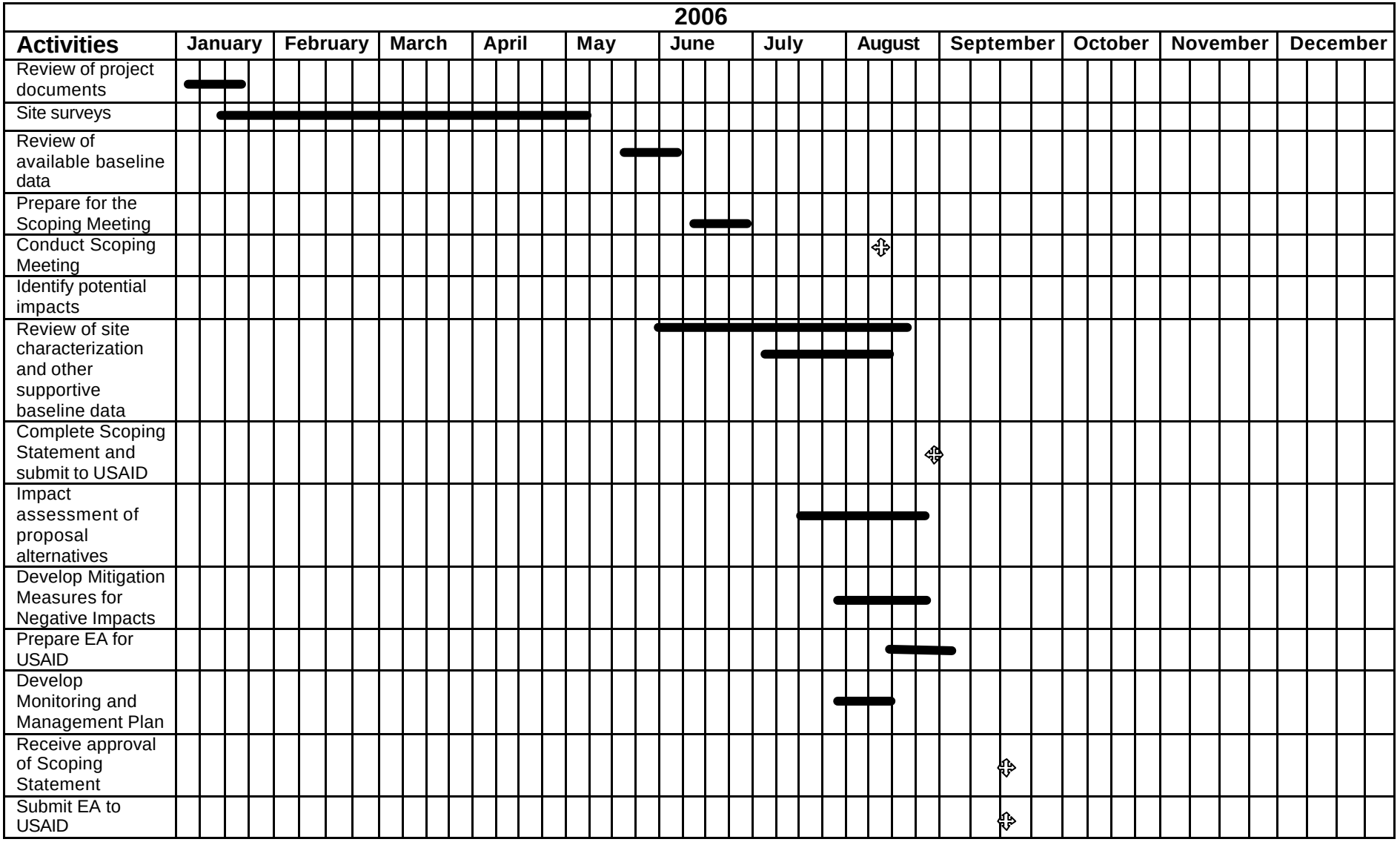
No variations from the format of the Environmental Assessment will be necessary.

Disciplines Involved in Preparing the Environmental Assessment

It is anticipated that the EA team will include the following disciplines:

- Health Risk Assessment Specialists
- Environmental Scientists
- Environmental Engineers
- Biological and Physical Scientists
- Remediation Specialists
- Social, Economic, and Financial Specialists

Table 9: Planning and Decision-making Schedule



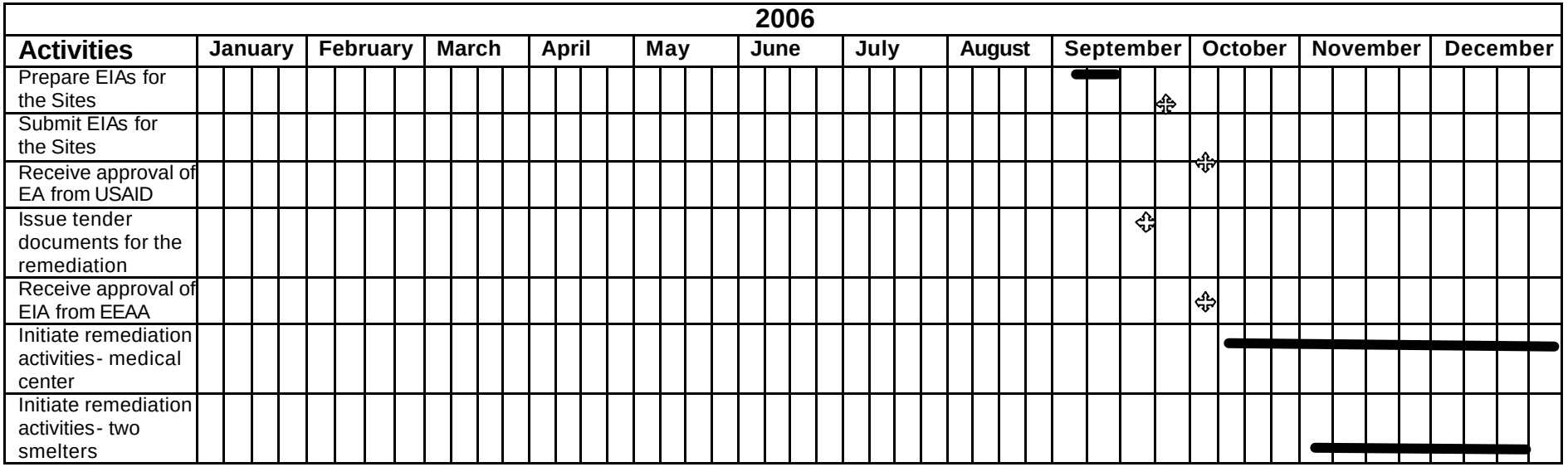

2006
Activities
January
February
March
April
May
June
July
August
September
October
November
December
Prepare EIAs for the Sites
Submit EIAs for the Sites
Receive approval of EA from USAID
Issue tender documents for the remediation
Receive approval of EIA from EEAA
Initiate remediation activities- medical center
Initiate remediation activities- two smelters

Table 10: Schedule of Environmental Analyses

Media to be Analyzed	Dates for Analyses		
	Inclusion in the EA	**Prior to Remediation**	**Completion of Remediation**
Air Quality	August 2006	October 2006 for Medical Center November 2006- For Smelters	Monitoring will be continuous during the remediation process using data provided by EEAA.
Noise	August 2006	October 2006 for Medical Center November 2006- For Smelters	Monitoring will be continuous, if needed, during the remediation process.
Soil	Site characterization information will be included in the EA for the sites.		Clearance sampling will be conducted following the completion of remediation activities. December 2006

APPENDIX A

AGENDA AND LIST OF AGENCIES, INSTITUTIONS AND NGOs ATTENDING THE SCOPING MEETING

AUGUST 9, 2006

Scoping Session Agenda
Environmental Assessment for
LIFE-Lead Pollution Clean-Up in Qalyoubia
Wednesday AUGUST 9, 2006
Shoubra El Kheima City Council
Governorate of Qalyoubia
11:00 – 14:00

10:30 – 11:00	Registration	
Opening		
11:00 – 11:15	Introductory Speech (LIFE-Lead) General Mohamed Seif El Deen, Mayor, Shoubra El Kheima City Eng. Ahmed Abou El Seoud, EEAA	
Part I		
11:15 – 12:15	Presentation: Project Activities and the Proposed Remediation Alternatives	
	Presentation: EA/EIA for the Proposed Remediation Alternatives	
Part II		
12:15 – 14:00	Open Session for Discussions and Recommendations	
End of Session		

LIST OF AGENCIES, INSTIUTIONS AND NGOS CONSULTED BY THE ENVIRONMENTAL TEAM DURING SCOPING

Governmental Agencies

- EEAA
  - Environmental Management Sector
  - Environmental Quality Sector
  - Greater Cairo Regional Branch Office (RBO)
  - Industrial Unit
- Governorate Of Qalyoubia (GOQ)
  - Central Level (Governor Office, Governorate Departments, and Shoubra El Kheima City)
  - Local Level (East Shoubra El Kheima District, Environmental Management Unit-EMU)
  - Sectoral Level (Education, Health, Public Awareness, Information and Decision Support Directorates)
  - El Kablat Medical Center Management

- Abou Zabaal Landfill in Qalyoubia

Smelters and Foundries

- Tarek Amin and Atef Gad (Khaled Saad Smelter)
- Salah Saad (Osama Zakaria Smelter)

Community Representatives and NGO's

- Heads and members of local councils
- Religious figures
- Shoubra El Kheima Association
- Integrated Care Society
- National Council for Women
- Local NGOs

Other Organizations

- Hazardous Waste Management Project in Alexandria Governorate
- Authority for Geological Surveying

APPENDIX B

DETAILED SUMMARY OF COMMENTS AND SCOPING MEETING RESPONSES

The LIFE Lead Pollution Clean-Up in Qalyoubia Scoping Session for El Kablat Medical Center and Osama Zakaria and Khaled Saad smelters was held on Wednesday August 9, 2006 at the Shoubra El Kheima City Council Hall. The session was attended by approximately 61 participants from local government, executive agencies, and community representatives in addition to the project team. The following is a summary of comments either made by the participants during the session or submitted in writing during or within one week after the session in response to a scoping response form distributed at the beginning of the session.

The session was headed by General Seif Mohamed El Deen, Mayor of Shoubra El Kheima City and General Fawzy El Shamy, Head of Shoubra El Kheima East District. It was moderated by Eng. Ahmed Abu El Soud, Head of Air Quality Unit in EEAA.

Summary of Comments Made during the Session[4]

Mohamed Ismail, Hazardous Waste Management Unit, EEAA--

Dr. Ismail asked whether the Remediation Guidelines will be one of the outputs of the LIFE Lead project. He also inquired whether the risk assessment was based solely on mathematical models or whether field samples were taken. He also commented that he felt that remediation options were selected based on cost not on technology. He also asked if noise control measures were considered.

Madiha Afifi, Training & Communication Manager, LIFE Lead Project--

Ms. Afifi assured that the remediation guidelines will be a main output of the LIFE Lead project. She added that the guidelines will include remediation from lead and other heavy metals. It is presently being prepared by the project and will be disseminated among working groups containing representatives from the concerned governmental agencies as well as remediation contractors for feedback. The guidelines should be ready by January 2007.

Ahmed Abu El Soud, Head of Air Quality Unit, EEAA--

Eng. Abu El Soud added that EEPP had prepared remediation guidelines but it was very theoretical and focused only on lead. It will therefore be updated, and modified to include other heavy metals. It will be produced in English as well as Arabic.

Heba Wafa, Health Risk Assessment Specialist, LIFE Lead Project--

Dr. Wafa said that mathematical modeling is used to assess the health risks associated with the identified levels of contamination. However, blood samples were taken before initiation of the project from a sample population in Shoubra El Kheima and will be repeated at the end of the project to monitor improvement due to remediation activities. This is done in collaboration with the Ministry of Health and EEAA.

Dalia Nakhla, EIA Specialist, Environics--

Eng. Nakhla responded regarding noise control that the project try to minimize the use of noise producing equipment by minimizing dry cleaning and using more wet cleaning.

[4] Recorded in sequence of speaking during the session

Moreover, demolishing of existing structures in the two smelters will be done manually and so no demolition equipment will be used. Anther measure that is usually taken is restricting noisy activities to the morning shift.

Amani Gamal El Din, Cognizant Technical Officer, USAID--

Eng. Gamal El Din asked about Delta Solb Company and whether it is progressing towards environmental compliance since it is one of the main existing sources of pollution in the project area. The other issue that she raised was how remediation of the medical center will take place during the operation of the center.

Fawzi El Shami , Head of Shoubra El Kheima East District--

General El Shami responded that Delta Solb Company is currently working on substituting its fuel with natural gas and this will improve the environmental conditions of the Company.

Gamal Moawad, Director of El Kablat Medical Center--

Dr. Moawad said that the medical services and activities could go on in parallel with remediation activities by providing only some services and others not at all. In addition, buildings that will not be remediated could be used as well as some of the medical staff houses.

Ahmed Abu El Soud, Head of Air Quality Unit, EEAA--

Dr. Abu El Sud wondered if this is possible since the patients using the medical center are a very vulnerable receptor and they should not be exposed to any pollution resulting from remediation activities.

Fatheya Soliman, Technical Design Manager, LIFE Lead Project--

Dr. Soliman emphasized that it will not be possible to have any activities in the medical center other than those of remediation. The working area should be completely isolated and the workers have to use the decontamination chamber before exiting the work site. The medical center should shift its activities to neighboring medical centers.

Hassan Meky Hassan, El Kablat Medical Development NGO--

Mr. Meky said that he has no problem accommodating the activities of El Kablat Medical Center until remediation works are over.

Ahmed Abu El Soud, Head of Air Quality Unit, EEAA--

He recommended that the work schedule of the remediation activities in the medical center should be shortened to minimize the time the medical center would be out of service.

Mahmoud Shawki, Industrial Unit, EEAA--

Eng. Shawki commented that natural gas usage will only reduce the SOx emissions from Delta Solb Company but will not in fact reduce the heavy metal emissions which are the cause of the current environmental problem that the project are trying to resolve. Installation of special filters and proper waste management should be considered. He also added that the remediated sites should be monitored to check if heavy metals and lead will be detected again in the soil and swap samples since this will be an indicator if the pollution sources are persistent in the project area.

Ahmed Abu El Soud, Head of Air Quality Unit, EEAA--

He agreed that the project should take samples to test with the XRF from Ahmed Shalaan School. He added that the Inspection Unit of EEAA should monitor the environmental compliance of Delta Solb Company and the Hazardous Substances Department to monitor the other sources of emissions through the emission inventory project.

He added that USAID is concerned with the risk of future contamination of the remediated sites. He said that since there are no sources of lead in the area, it should not be detected in future monitoring. However, he expects that other heavy metals will be detected due to the present operation of the other smelters in the project area.

Essam Zaki, Manager of the Environment Office, Shoubra EL Kheima City--

Mr. Zaki commented that the two smelters that will be remediated (Osama Zakaria and Khaled Saad) are different in nature from those already remediated by the project (El Mahy, Seoudi and Awadallah) since they are located in a very densely populated area and are only accessible by very narrow streets. He therefore recommended not to use large or heavy equipment and vehicles in their remediation.

Fatheya Soliman, Technical Design Manager, LIFE Lead Project--

Dr. Soliman said the local environmental and engineering setting of the smelter will be taken into consideration in the process plan and design. In Osama Zakaria, a neighboring 200 m2 land will be used by the project and will eventually be remediated. In the second smelter the decontamination chamber will be minimized in size and will probably be located on the roof of the smelter.

Elham Refaat, Head of Hazardous Substances Department, EEAA--

Eng. Refaat said that she had just visited Delta Solb Company. She said that their environmental conditions in general and work place environment in specific are in very bad shape. Hazardous spills and leaks and contaminating the soil, pollution is everywhere and the workers are in poor health conditions and some have dermal eczema.

Ahmed Abu El Soud, Head of Air Quality Unit, EEAA--

Eng. Abu El Soud said that these polluting establishments are the responsibility of the EEAA and the Governorate and they should ensure that they are working towards compliance.

Summary of Comments Submitted in Writing (during and within one week of the session)[5]

Gamal Moawad, Director of El Kablat Medical Center--

Dr. Gamal wrote that the project should plan on planting green areas to minimize the effects of heavy metals. He was questioning why the authorities are not monitoring the SOx emitted from the vehicles that cause air pollution in the study area and suggest prevention measures. The project should adopt a plan for paving the streets around the remediated sites.

[5] Received until Tuesday August 15th 2006.

APPENDIX C

LIST OF INVITEES TO SCOPING SESSION

Governorate of Qalyoubia	
Counselor/Adly Hussein	Governor of Qalyoubia
Ahmed El Araby	Secretary General
Saeed Zaghloul	
Head of Environmental Affairs	
Head of Public Relations	
Head of Shoubra El Kheima General Library	
Information & Decision Support Center (IDSC)	
Head of the Information & El-Nil Center	
Central Departments	
Eng. Rafaat Abdel Latif	Head of Environmental Sector at the Governorate level
Environmental Management Unit Team Members(Governorate Level)	
General Manager of Education Department Shoubra El Kheima	
Head of Population & Environment Department	
Head of Educational Buildings Authority	
Head of Health Department-Shoubra City	
Health Department Deputy and Supervisors	
Local Departments	
General/ Fawzy El Shamy	Head of Shoubra El Kheima East District
General/ Farouk Khater	Head of Shoubra El Kheima West District
Secretary General of Shoubra El Kheima East District	
Head of Environmental Management Unit-Shoubra El Kheima East District	
Environmental Management Unit Team Members(District Level)	
Governorate Environmental Inspection Team Members	
Public Relations -East District	
Information & Decision Support Center (IDSC)-East District	
Head of the Information & El-Nil Center-East District	
Popular Councils	
Head of Governorate Local Popular Council	
Head of Local Popular Council for Shoubra El Kheima City	
Head of the Local Popular Council for East District	
Head of the Local Popular Council for West District	
Members of the Local Popular Councils	

Political Representatives	
Parliament Member for Shoubra El Kheima	
Parliament Member for East District	
Shoura Council Member	
National Party Secretary Shoubra El Kheima	
National Party Secretary East District	
East District National Party Secretary	
El Shahid Ahmed Shalaan School	
School Principal	Laila Mohamed Hassan
School Teachers	
School Administration	
Mohamed Metwalli El Shaarawy School	Gamal El Sheemy
Naguib Mahfouz Primary School	Afifi Abdel Sadek Afifi
El Kablat School	Abdel Rahman Abdel Fattah
El Delta Lel Solb School	Ezzat Abdel Hamid Gadu
El Delta Lel Solb School	Waguih Ali Sharaf Eddin
El Delta Lel Solb School	Mahmoud Mohamed Ali
El Delta Lel Solb School	Gamal El Sheemy
EEAA	
Eng. /Maged George	Ministry of State for Environmental Affairs
Eng. Mohamed Said Khalil	EEAA-CEO
Dr. Fatma Abou Shouk	Head of Environmental Management Sector
Dr. Mowaheb Abu El-Azem	Head of Environmental Quality Sector
Dr. Adel El Shafei	Head of Hazardous Waste Department
Dr. Ahlam Farouk	Head of Inspection
Dr. Ahmed Abou El Seoud	Head of Air Quality
Eng. Hanan El Hadary	Head of Industrial Unit (EPAP)
Gen/ Yehia Abdel Kader	Head of Public Awareness Department
Atwa Hussein Atwa	Head of NGO Unit
Atef Yaccoub	Inspection Department
Dr. Magdy Allaam	Greater Cairo (RBO)
Eng. Mona Habib	Greater Cairo (RBO)
Dr. Elham Refaat	Head of Hazardous Substances Department
Dr. Sabry Abdel Menem	Environmental Health Department
Central Laboratory at EEAA	
Environmental Researchers	
Smelter and Foundries Owners	
Osama Zakaria	Steel Smelter
Khaled Saad	Cast iron Smelter
Academic Institutions	
Dr. Murtada El Aaref	Cairo University(Center for Risk and Toxins Mitigation/Minimization)
Dr. Saad Hassan	Ain Shams University (Head of EEAA Reference Laboratory)
Dr. Ahmed Sherif	Cairo University and Consultant
Non-Governmental Organizations	
National Council for Women	
El-Shareia Society in Shoubra El Kheima	
El-Rahman Association in East District	
Protection of the Environment Association	
Shoubra El-Khiema Association for Community Development	

Integrated Care Society	
Hayati	
Gameiet Tanmiet El Kablat	
El Gameia El Zahería Belbakry wel Kablat	
Gameiet Tanmiet Ibrahim Bek	
Other Figures	
Tharwat Nageh	Schools Health Insurance
Hoda Anwar Zakry	Health Dept.
Waheeb Farahat	Social Affairs
Khaled El Azizi	Selim Youth Center
Saeed El Nagar	Elhorreya Wel Sammaa Youth Center
Press and Media	
Al Ahram Newspaper	
Al Akhbar	
El Gomhoreia	
Rose El Youssef	
Al Ahrar	
El Raay	
Contractors	
Rowad Modern Engineering	
Al Eman Engineering Company	
AMA Arab Environment Company	
EAMIC	
Madina Engineering & Construction	
Donors	
TAKAMOL	

APPENDIX D

LIST OF PARTICIPANTS AT SCOPING SESSION

Name	Position	Organization	Phone/Mobile
EEAA			
Helmy Kamal Abou Hashem		EEAA	
Dr. Ahmed Abou El Seoud	Head of Air Quality		0123102068
Dr. Sabry Abd El Hady	General manager		0108773684
Dr. Elham Refaat	Head of Hazardous Substances Department		010-918301 (012)
Sayed Mohamed Abd Rabuh	Chemist		5256447
Mahmoud Medhat Allam	Central Office for Environmental Impact Assessment		0122723635
Dr. Mona Habib	General Manager		0122705921
Ghada Hassan Abd El Razek	Chemist		0109433092
Mohamed Ismail Ibrahim	Head of Hazardous Materials Dept.		010-6502402
Caroline Abd Allah	Public Awareness Department		
Hussein Meaawad Mahmoud	Manager		
Mahmoud Ahmad Shawky	General Manager of industry projects		0101377734
Dalia Taha Ahmad	Public Awareness Department		
Hany Nabil			
Dalia Fathi Ahmad	Chemist		0124396846
Ministry of Education			
Mostafa Abd El Meguid Farag	Engineer		013-3235558

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Mervat Ahmed Mostafa	**Deputy East sector**		**012-1249493**
USAID			
Amany Gamal El-Din	**Project Supervisor**		
Mohammed Abd El-Rahman	**Projects Engineer**		
Environics			
Dalia Nakhla	**EIA Specialist**		
Shoubra El Kheima - East District			
Abd El Rehim Abd El Mawgoud			**012-5317866**
Mostafa Aly Hussein			
Mansour Hussein El Husseiny Mansour	**General manager**		**0122200721 024700416**
Ayman Mohamed salama			**0124389122**
Shoubra El-Kheima City			
Essam El-Din Zaki Hamed	**Manager of the Environment Office**	**Environment Office**	
Mostafa Abd El maguid Farah		**Engineer**	
Mohamed Abd El Azim Mohamed Shaalan			**0125594404**
Media			
Sanaa Sayed Abd El Momen	**Nile Media Center manager**	**Shoubra El Kheima Media Center**	**4303878**
Dr. Hossam Ezzat	**Greater Cairo Radio**		**0101538741 3924388**
Schools			
Mohamed Mohamed Abd El aal Mahmoud	**El Delta Solb School**		**4753130**
Abdel rahaman abdel Fatah	**El Kablat Primary School Manager**		
Wagih Aly Sharaf El Din	**El Delta Solb School Principal**		**2239050 0128944887**

Ezzat Abd El Hamid	**El Delta School Manager**		**012-3860961**
Rokaia abd El Khalek Mostafa	**El Delta Solb School**		**4723389**
Azza Mohamed Hussein Mohamed	**El Delta Solb School**		**4749442**
Libraries			
Amr Abd El-Salam	**Manager**	**0101471980 022216666**	**101471980**
Health Sector			
Entessar Abd El Wahab Sayed	**El Kablat Medical Center**		**2208287**
Howayda Abd El Hamid	**El Kablat Medical Center**		**2208287**
Amal Mohamed El Yomni	**El Kablat Medical Center**		**2208287**
Mona Soltan	**El Kablat Medical Center**		**2208287**
Mahassen El sayed Abd El Hay	**Secretary of the Medical Center**		
Hoda Anwar Zekry	**Head of Health Department**		**012-3380947/ 2208276**
Mona Fathi	**El Kablat Medical Center**		**2208287**
Waheeb Farahat	**Head of Protective Division**	**Health Sector of Shuobra El-Kheima**	**101979360**
Tharwat Nageh Kirolos	**Doctor**		**2205630 012-3562635**
Shahid	**El Kablat Medical Center**		
Gamal Meaawad	**Manager of El Kablat Medical Center**		
Others			
El Sayed Mohamed Hassan			**4719617**
Moustafa Kamel Abdel Hai			
Dr. Fotnat Mahmoud Tolba	**Prof. Faculty of Medicine –Benha Univ.**	**National Council of Women-GOQ**	

LIFE-Lead Project			
Dale Rice	**Chief of Party (Acting)**	**LIFE Lead**	
Heba Boulos	**Administration Manager**	**LIFE Lead**	
Rolf Lange	**Remediation Specialist**	**LIFE Lead**	
Sarah Mounir	**Training & Communication Assistant**	**LIFE Lead**	
Fatheya Soliman	**Technical Design Manager**	**LIFE Lead**	
Heba El-Toudy	**Training Specialist**	**LIFE Lead**	
Heba Wafa	**Health Risk Assessment Specialist**	**LIFE Lead**	
Madiha Afifi	**Training & Communication Manager**	**LIFE Lead**	
Magued Youssef	**Technical Planning Manager**	**LIFE Lead**	
Bahtim Culture Center			
Hamed Abd El Aziz	**Center Manager**		**2228955 01670169**
Companies/Contractors			
Eng/ Samir Fakhry Tadros	**Manager**	**Darcom**	**2912504**
Hany Al Bayad	**Vice president**	**Emec**	**2618795**
Tarek Zahran	**General manager**	**Emec**	**2618795**
Nabil Nassif	**Technical manager**	**Emec**	**0101132731**
Abd Allah hadad	**Project manager**	**El Madina**	**0126747443**
Ahmad Fouad Nounou	**Dept of eng manager**	**AMA Arab**	**0101377734**
Associations			
Esslah Abd El Fatah Foudah	**Woman and Child**		**0121598481**
Naglaa Ahmad	**Women Development**		**4714414 4759467 4759469**
Hassan Meky Hassan	**El Kablat Development of healh**		**0123239661 2210970**
Abd El Hamid Sayed Abd El Hamid	**Ibrahim bek Development**		**2200401**
Milad Monsif	**Ibrahim bek Development**	**Secretary**	**2200401**

APPENDIX E

EXHIBITS

Exhibit 1: Location of El Kablat Medical Center

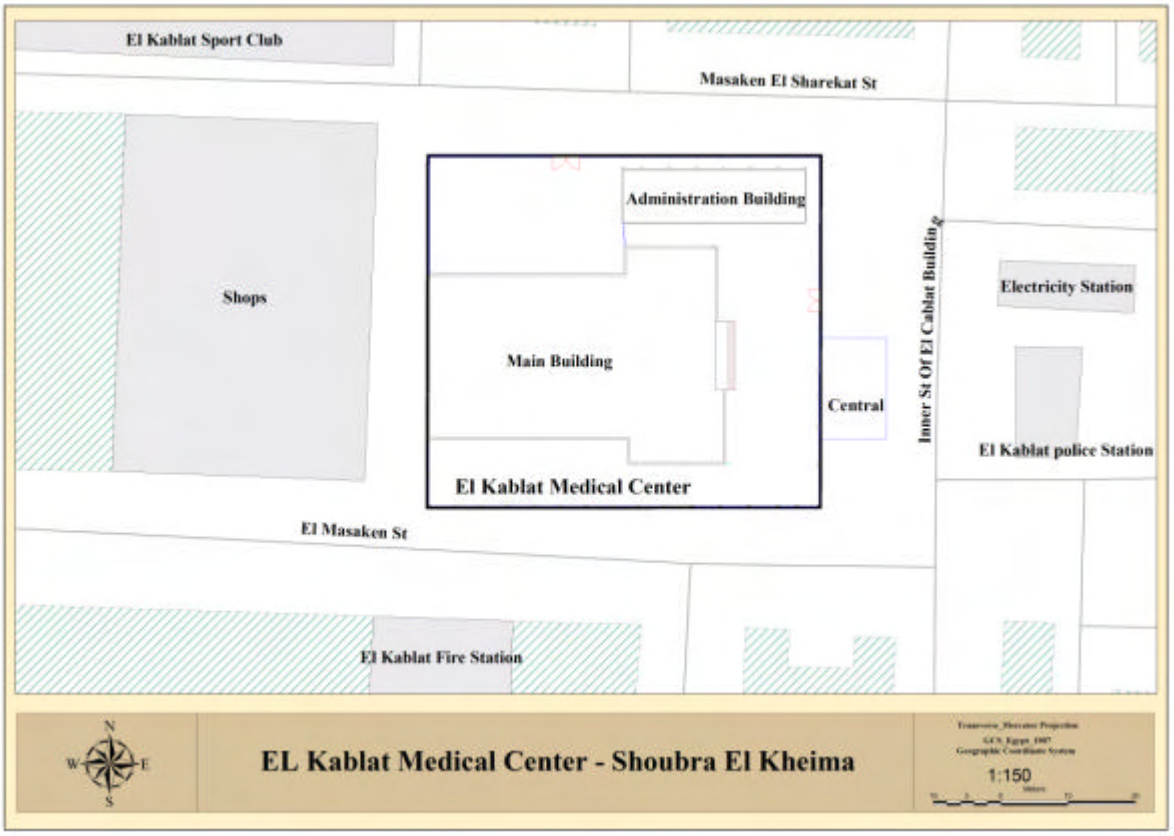

Exhibit 2: Layout of El Kablat Medical Center

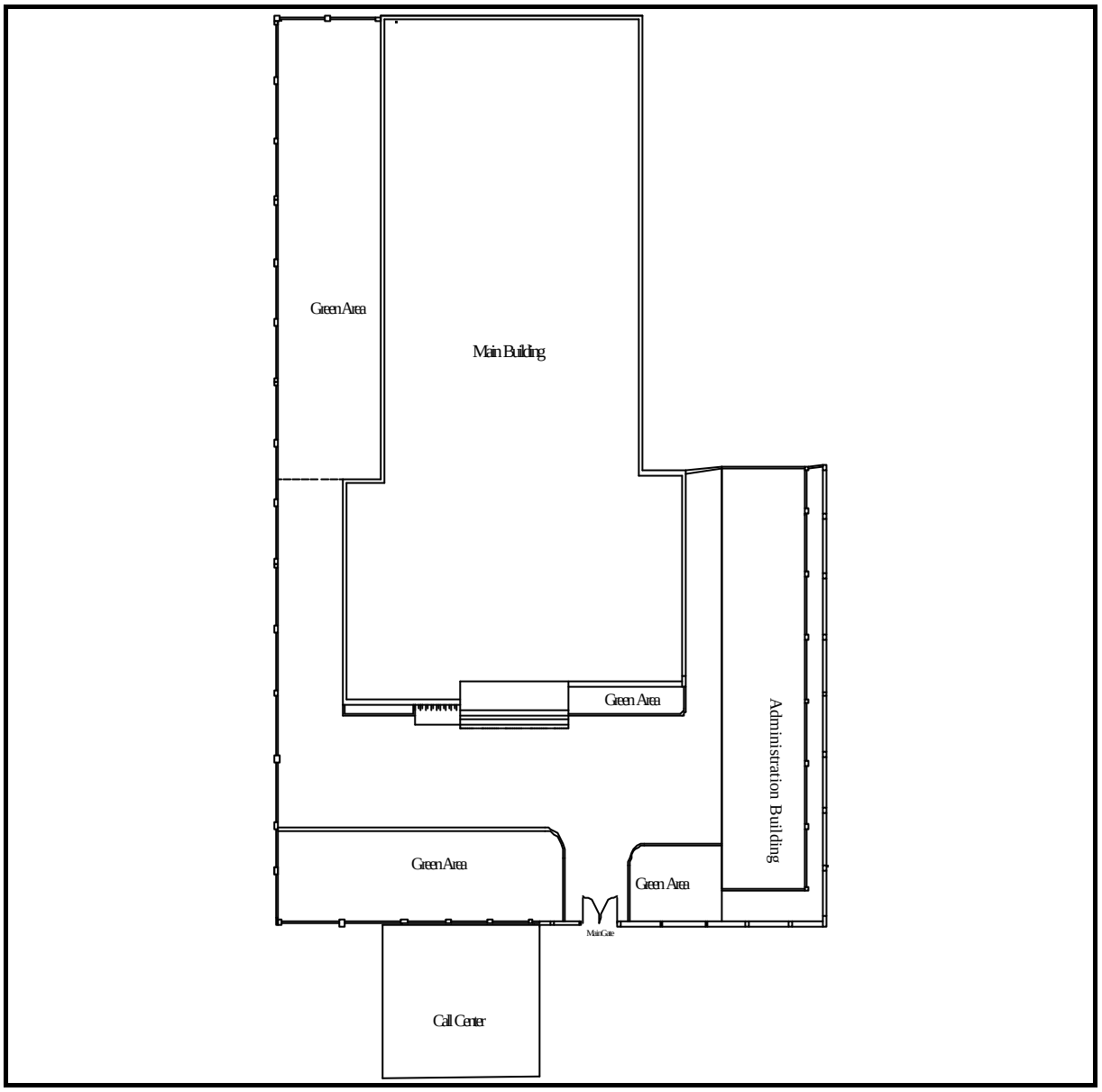

Exhibit 3: Location of Surface and Boreholes Samples for El Kablat Medical Center

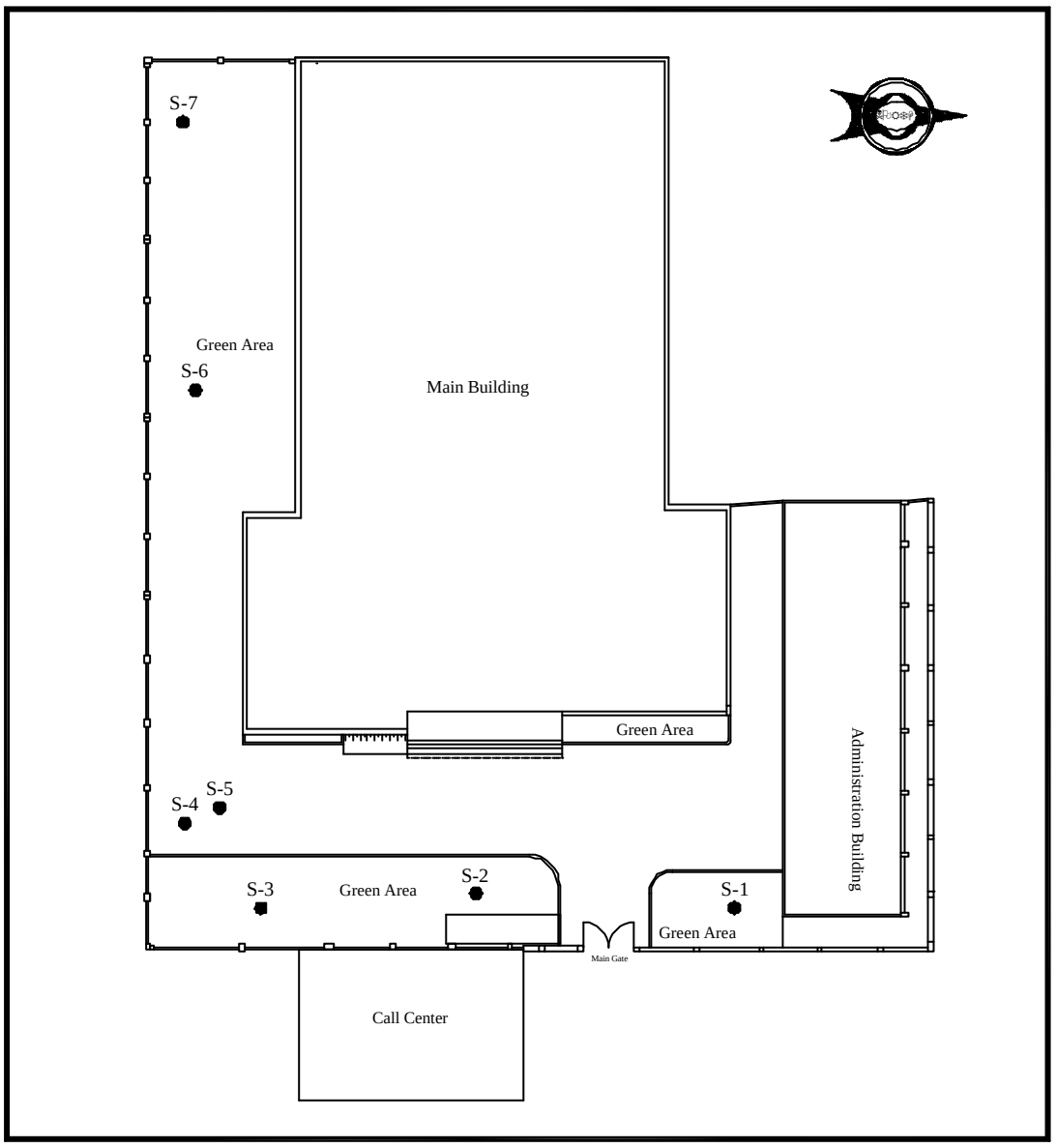

Exhibit 4: Location of Osama Zakaria Secondary Lead Smelter

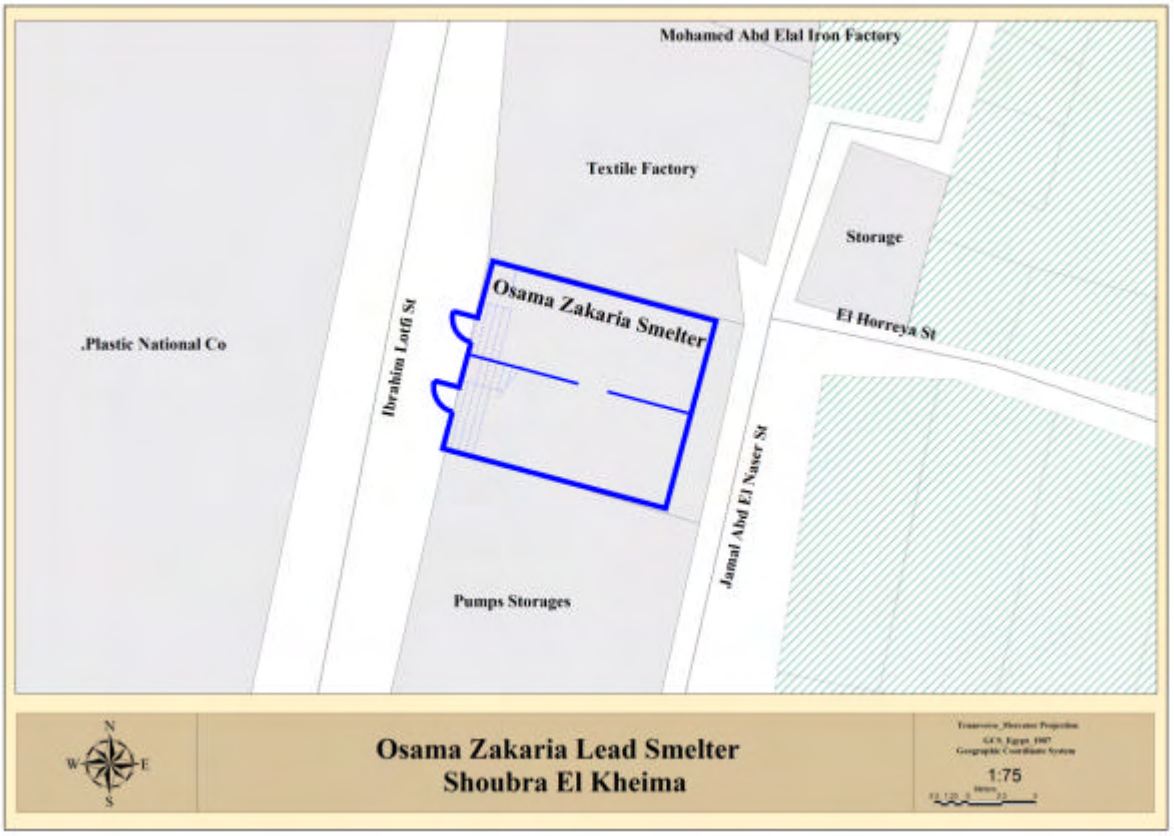

Exhibit 5: Layout of Osama Zakaria Secondary Lead Smelter

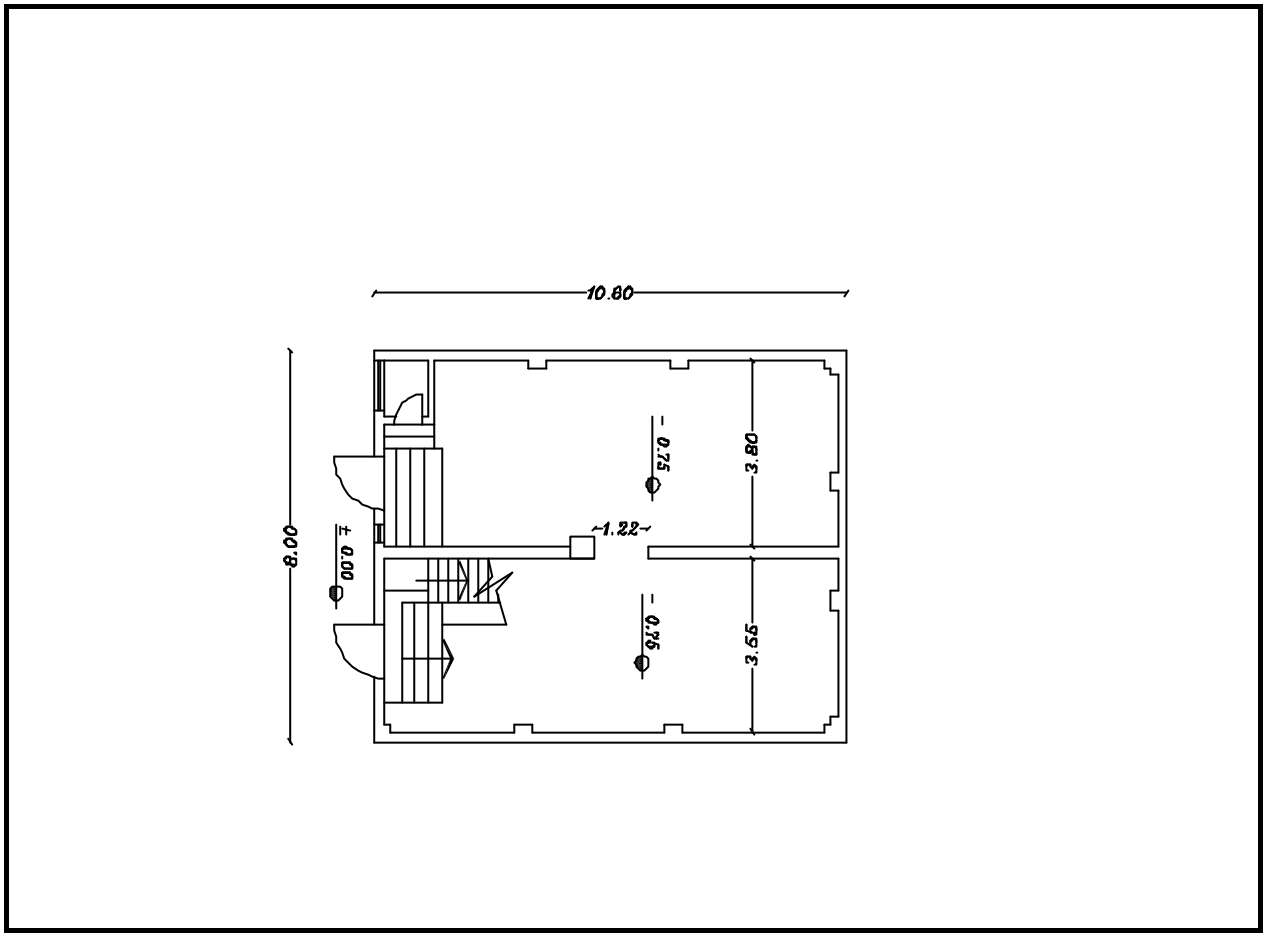

Exhibit 6: Location of Surface, Boreholes Samples for Osama Zakaria Secondary Lead Smelter

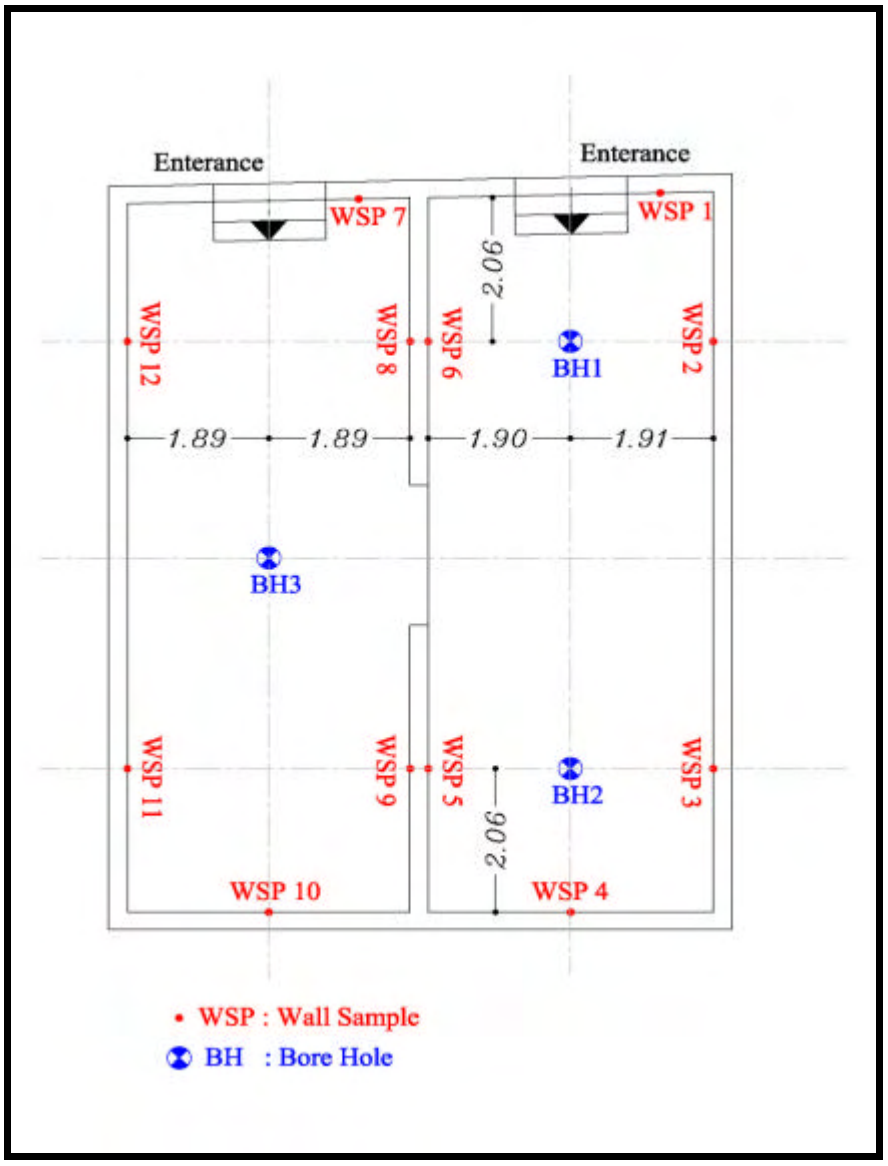

Exhibit 7: Location of Khaled Saad Secondary Lead Smelter

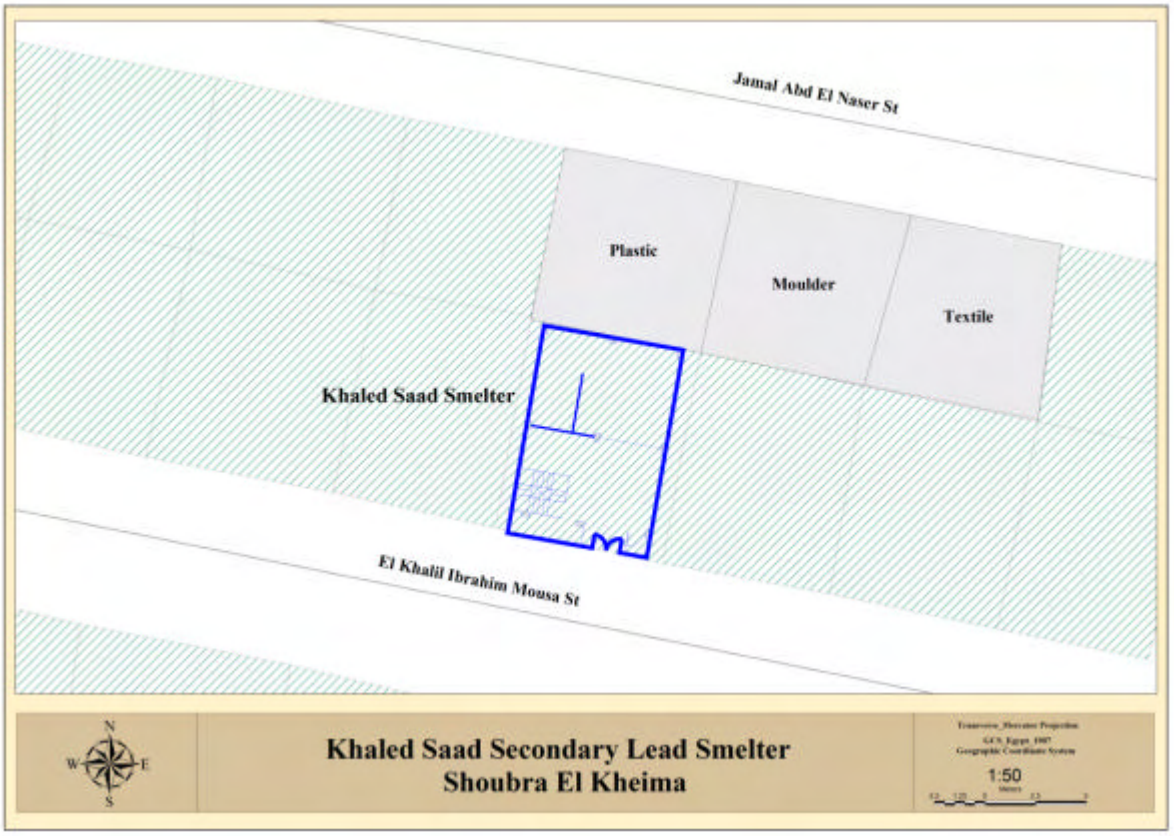

Exhibit 8: Layout of Khaled Saad Secondary Lead Smelter

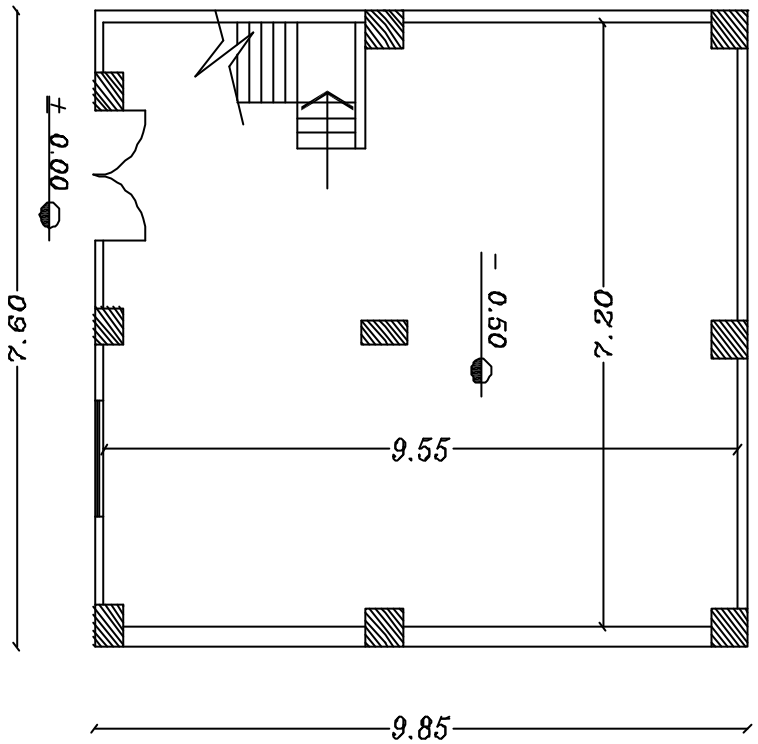

Exhibit 9: Location of Dust and Wipe Samples for Khaled Saad Secondary Lead Smelter